



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:

IN SAN JEON, ET AL.

Application No.: 10/039,005

Filed: December 31, 2001

For: **TURBO DECODER AND ITS  
CALCULATION METHODS HAVING A  
STATE METRIC - UTILITY**

Art Group: 2133

Examiner:

**RECEIVED**

JAN 27 2004

Technology Center 2100

**INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §1.97**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

In accordance with the duty of disclosure, enclosed is a copy of Information Disclosure Statement by Applicant (form PTO/SB/08), which is being submitted before the mailing of a first Office Action. It is respectfully requested that the cited references be considered and that the enclosed copy of PTO/SB/08 be initialed by the Examiner to indicate such consideration and a copy thereof returned to applicant(s). Copies of the references cited on PTO/SB/08 are enclosed herewith.

It is hereby stated that no item of information contained in the Information Disclosure Statement was cited in a patent office in a counterpart application, and, to the knowledge of the undersigned, after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to any individual associated with the filing or prosecution of the subject application more than three months prior to the filing of the Information Disclosure Statement.

The references were cited in a Search Report dated November 29, 2003 (copy enclosed herewith) in a counterpart Korean application, which was forwarded to Applicant's Representative in a communication dated December 1, 2003.

The submission of this Information Disclosure Statement is not to be construed as a representation that a search has been made in the subject application and is not to be construed as an admission that the information cited in this statement is material to patentability.

Please charge any fees due to Deposit Account 02-2666. A duplicate copy of the Fee Transmittal (PTO/SB/17) is enclosed for this purpose.

Respectfully submitted,

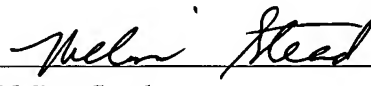
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Date: 1/11/04

  
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I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

  
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Based on PTO/SB/08B (08-03) as modified by Blakely, Solokoff, Taylor & Zafman (wlr) 08/11/2003.  
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## **Information Disclosure Statement**

U.S. Patent Application Serial No. 10/039,005

Your Ref. No.: 51876.P290

Our Ref. No.: P01E6014/US

Issued Date by the Korean Intellectual Property Office: November 29, 2003

Received Date from the Korean Intellectual Property Office:

December 1, 2003

Reference No.:

Implementation and Performance of a Serial MAP Decoder for use  
in an Iterative Turbo Decoder

*(IEEE Int. Symp. Information Theory, September 1995, Page 471)*

## **NOTICE OF PRELIMINARY REJECTION**

**APPLICANT(S)**

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**APPLICATION No.** 2001-71757

**TITLE** *TURBO DECODER AND ITS CALCULATION METHOD*  
*HAVING A STATE METRIC*

This application was preliminarily rejected pursuant to Article 63 of the Korean Patent Law based on the following reason. Should there be any opinion against this action, please file a written argument by January 29, 2003. (You can apply for 1-month extension per each case, and we do not notify you of the confirmation for such term extension.)

**[REASON]**

This invention described in claim 1 can be easily invented by those skilled in the art as pointed out below. Accordingly, the above-identified patent application cannot be registered pursuant

**[BELOW]**

The present invention presented in the detailed description and claim 1 is directed to a turbo decoder which includes a branch metric computing means, a state metric computing means for computing and storing a backward state metric and computing and transmitting a forward metric; and a log likelihood ratio computing means.

A MAP decoding algorithm including the steps of: computing a branch metric, computing and storing a backward state metric, computing a forward state metric, and computing a log likelihood ratio is disclosed in an article by S. Pietrobon, entitled "Implementation and Performance of a Serial MAP Decoder for use in an Iterative Turbo Decoder", IEEE International Symposium on Information Theory, pp. 471, September 1995, which is enclosed herein by Reference. Therefore, the structure of the present invention is considered to be invented easily by those of ordinary skill in the art from the steps of the cited Reference.

*[Attachment] Implementation and Performance of a Serial MAP Decoder for use in an Iterative Turbo Decoder*  
*(IEEE Int. Symp. Information Theory, September 1995, Page 471)*

Dated this 29<sup>th</sup> day of November, 2003

Examination Bureau IV  
Examiners, Kyung-Ah Seong & Jae-Shin Cho

**KOREAN INTELLECTUAL PROPERTY OFFICE**